Proposed Major Modification Request

to the Resource Conservation and Recovery Act Permit AL3210020027

Mustard Agent Trial Burn (ATB) Plans

The U.S. Army has designed and built a hazardous waste disposal facility for the destruction of the chemical munitions stockpile at Anniston Army Depot (ANAD) near Anniston, Alabama. The Anniston Chemical Agent Disposal Facility (ANCDF) is designed to dispose of chemical nerve agents (GB, VX), mustard (HD, HT), drained munitions, contaminated refuse, bulk containers, explosive, and propellant components. The ANCDF operates under a Resource Conservation and Recovery Act of 1976 (RCRA) permit AL3210020027 issued by the Alabama Department of Environmental Management (ADEM). Under the requirements of this permit, the incinerator system must demonstrate the ability to safely, effectively treat hazardous wastes such that human health and the environment are protected. The ANCDF RCRA permit requires that a successful demonstration of an incinerator and pollution abatement system be conducted. A successful ATB is required to be completed for each furnace prior to the facility being allowed to conduct normal operations.

The proposed permit modification request will contain chemical mustard agent trial burn plans for the liquid incinerator (LIC) and the metal parts furnace (MPF) that are required to be submitted to the ADEM. The ATB plans detail specific testing to be conducted in conjunction with the start of mustard processing at the ANCDF. Similar testing has been successfully completed with a surrogate compound more difficult to burn than chemical agents processed at the ANCDF, as well as for the chemical nerve agents (GB,VX). The testing is done to assure compliance with permit limits and regulatory requirements. Mustard is the final chemical agent campaign at ANCDF.

Liquid Incineration

The LIC is a two-chambered, refractory-lined incinerator specifically designed to incinerate chemical agents GB, VX, HD, and HT from munitions and bulk containers. The chemical agent will be atomized by pressurized air to aid in complete combustion of the chemical agent. The secondary chamber ensures complete combustion. In addition, other liquid wastes generated on-site, such as spent decontamination solution, will also be incinerated in the secondary chamber.The proposed mass loading of mustard to the LIC during the ATB is up to 1,275 lbs/hr.

For more information, contact the
Anniston Chemical Demilitarization Community Outreach Office
11 E. 10th St.
Anniston, AL 36201
Phone: (256) 238-0120
Fax: (256) 238-0195

or contact the
Public Affairs Office
(256) 238-1652, ext. 235

or the
CMA Public Affairs Office
(800) 488-0648

OVER ▶

Proposed Major Modification Request

to the Resource Conservation and Recovery Act Permit AL3210020027

Metal Parts Furnace

The MPF is designed to process agent (VX, GB, HD, and HT) and thermally decontaminate projectile/mortars and bulk container items. The MPF is a horizontal, refractory-lined, carbon steel, batch-feed, conveyor furnace with three heating zones. Exhaust from the MPF passes through an afterburner in a horizontal, cylindrical, refractory-lined chamber that serves to ensure complete combustion. The proposed mass loading of mustard to the MPF during the ATB is up to 576 lbs/hr.

The mustard ATB plans propose normal operating conditions of the furnaces in order to prove they can be operated in a manner that is safe to human health and the environment. The overall objective of the ATBs is to prove the ability of a furnace to incinerate and destroy chemical agent. The ATBs will be used to gather necessary data to support the ecological and health risk assessment, and to evaluate the performance of the pollution abatement system (PAS).

Clean Air Act Compliance

During the ATBs, each furnace must achieve a destruction and removal efficiency (DRE) of 99.9999% and comply with its Clean Air Act permit and the National Emission Standards for Hazardous Waste Combustors. DRE and compliance with Clean Air Act requirements have been successfully demonstrated at the ANCDF using surrogate materials that are harder to destroy than other agents and those containing mustard agent.

The mustard ATB plans lay out the structure of feeding, sampling, and operating methods used during the ATBs. The plans include a Sampling and Analysis Plan and its Quality Assurance Project Plan as well as the Washington Group Anniston Agent Trial Burn Quality Assurance Project Plan. These Plans provide information on the sampling activities performed during the trial burn as well as the Quality Assurance/Quality Control of these activities.

During the mustard ATBs, the flue gas will be analyzed for the following:

- **Total metals**
- **Hydrogen Chloride/Diatomic Chlorine/Hydrogen Fluoride**
- **Dioxins**
- **Furans**
- **Total particulate**
- **Total Hydrocarbons**
- **Sulfur Dioxide and Nitrogen Oxides**
- **Carbon Dioxide, Carbon Monoxide and Oxygen**
- **Volatile organics**
- **Semi-volatile organics**
- **Total organic constituents**
- **Mustard Chemical Agent**

All samples will be collected in accordance with U.S. Environmental Protection Agency protocols following strict quality assurance and control.

In conjunction with the submittal of the mustard ATB plan, changes are proposed to related sections of the ANCDF permit. The submittal of the ATB plans and the related permit application changes are considered a request for a major modification to the permit.